

**Jui-Lin (Frank) Li, Ph.D. Scientist**  
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## EDUCATION

1994, Ph.D. , Atmospheric and Oceanic Sciences, University of Wisconsin-Madison  
 1985, M.S. Atmospheric Sciences, National Taiwan University, Taiwan  
 1982, B.S , Atmospheric Sciences, National Taiwan University, Taiwan

## SCIENTIFIC EXPERTISE

**Global climate modeling and model physical parameterizations, Model and data comparison**

## RESEARCH INTERESTS

**Climate/regional modeling:** climate modeling and atmospheric hydrological cycle, subgrid-scale parameterizations of atmospheric convection/clouds and planetary boundary layer with GCMs and regional/mesoscale model.

**Cloud, convection, aerosol, radiation and PBL:** Modeling dry and moist planetary boundary layer (PBL), stratocumulus clouds (Sc), shallow PBL cumulus and the transition from Sc and shallow cumulus. Modeling stable cloud, deep convection schemes, and their radiative effects. Modeling direct/indirect aerosol interactions with cloud/convections.

**Climate diagnostics:** Using observation analysis to study global climate problems, particularly related to the global water and energy cycles.

**Data assimilation:** assimilation of satellite-derived atmospheric quantities (e.g., precipitation and heating profile) and climate model physical parameterization improvement.

## EMPLOYMENT

<b>2006-present</b>	<b>Scientist, JPL/Caltech</b>
2004-2006:	Senior Scientific programmer, JPL/NASA, SkillStorm Inc.
2000-2004:	Senior Scientific programmer, NASA at GSFC, STG Inc.
1994-2000:	Research Associate, University of California, Los Angeles

## AWARDS AND HONORS

**2009: JPL Mariner Award; “cutting edge research” JPL Global Climate Change.**

2008: JPL Lump sum Award, 2008; 2007: Top-ten list of NASA Aura MLS Mission Research Awards; 2006: JPL group award

## PUBLICATIONS (2007 ~ present)

### Y2010

Kubar, T. L., D. Waliser and **J-L F. Li, 2010:** Boundary Layer and Cloud Structure Controls on Tropical Low Cloud Cover Using A-Train Satellite Data and ECMWF Analyses, **JGR, submitted.**

Lee, Jeonghoon, J. Worden, D. Noone, J. Adkins, K. Bowman, A. Eldering, A. LeGrande, **Jui-Lin F. Li, and G. Schmidt, 2010:** Relating tropical ocean clouds to moist processes using water vapor isotope measurements, *Atmospheric Chemistry and Physics Discussions, Submitted.*

**Li, J-L F., J Teixeira, D. Waliser, C. Woods, D. G. Vane, J. D. Chern, B. Shen, J Bacmeister, A. M. Tompkins, W.-K. Tao, 2010:** A Comparison of Cloud Vertical

- Structure between CloudSat, ECMWF Analysis and two Climate Prediction Models along the GPCI transect over the Northeastern Tropical Pacific, *GRL*, **submitted**.
- Wang, Y-C, W-W Tung, **Ji, J.-L. F.**, D. Waliser, **2010**, Radiative Impacts of Precipitating Cloud Hydrometers on Regional Circulation and Precipitation: A WRF Model Sensitivity Study, *GRL*, **submitted**.
- Wang, C-J, H-L Huang, **J-L F. Li**, T-M Leou, and T-J G. Chen, **2010**, An Evaluation on Skills of the CWB NFS Model in the Prediction of Warm-Season Rainfall over the East Asian Continent, **2010**, *Terres. Atmos. Oceanic Sciences (TAO)*, **submitted**
- Chen, W.-T., A. Nenes, H. Liao, P. J. Adams, **J.-L. F. Li**, and J. H. Seinfeld, **2010**, Global Climate Response to Anthropogenic Aerosol Indirect Effects: Present Day and Year 2100, *JGR*, **in press**.
- Gettelman,A., and, **J.-L. F. Li, et al.**, **2010**, Global Simulations of Ice nucleation and Ice supersaturation with an Improved Cloud Scheme in the Community Atmosphere Model, *JGR*, **accepted**.
- Jiang, X., D. E. Waliser, **J.-L. Li**, and C. P. Woods, **2010**: Vertical Cloud Water Structures of the Boreal Summer Intraseasonal Variability Based on CloudSat Observations. *Climate Dynamics*, **accepted**.
- Ma, H. -Y, and, **J. -L. F. Li**, and F. De Sales, **2010**, Impact of land surface processes on the South American warm season climate, **accepted**.

## **Y2009**

- Couhert, A, T. Schneider, **J-L F Li**, D. Waliser and A.M. Tompkins, **2009**: The Maintenance of the Relative Humidity of the Subtropical Free Troposphere, *J. Climate*, DOI: 10.1175/2009JCLI2952.1.
- Jiang, X., D.E. Waliser, **J.-L. Li**, et al., **2009**, "Vertical Heating Structures Associated with the MJO as Characterized by TRMM Estimates, ECMWF Reanalyses and Forecasts: A Case Study during 1998-99 Winter", *J. Climate*, **22**, 6001-6022, doi:10.1175/2009JCLI3048.1.
- Waliser, D.E., and **J.-L. Li** et al., **2009**, "Cloud ice: A climate model challenge with signs and expectations of progress," *J. Geophys. Res.* **114**, D00A21, doi:10.1029/2008JD010015.
- Woods, C.P., D Waliser, **J-L F. Li**, et al., **2009**, "Evaluating CloudSat Ice Water Retrievals Using a Cloud Resolving Model: Sensitivities to Frozen Particle Properties and Implications for Model-Data Comparisons", *JGR*, , *J. Geophys. Res.*, doi:10.1029/2008JD009941, Oct 2008.
- Worden, J., D. and, **J-L F. Li**, et al., **2009**, Observed Vertical Distribution of Tropospheric Ozone During the Asian Summertime Monsoon, *J. Geophys. Res.*, **114**, D13304, doi:10.1029/2008JD010560.
- Wu, D. L., and, **J.-L. Li**, and D. E. Waliser et al., **2009**, Comparisons of Global Cloud Ice from MLS, CloudSat, and Correlative Data Sets, *J. Geophys. Res.*, doi:10.1029/2008JD009946.

## **Y2008**

- Li, J-L F**, D. Waliser, et al., **2008**, Comparisons of Satellites Liquid Water Estimates to ECMWF and GMAO Analyses, 20<sup>th</sup> Century IPCC AR4 Climate Simulations, and GCM Simulations , *Geophys. Res. Lett.* Volume 35, doi 10.1029/2008GL035427.
- Tao, Wei-Kuo, et al and **Jui-Lin Li**, et al., **2008**: A Multi-scale Modeling System: Developments, Applications and Critical Issues, *BAMS*, vol. 90, issue 4, p. 515.
- Schwartz, M.J. et al.,and, **J-L.F. Li**, et al. **2008**, "Validation of the Aura Microwave Limb Sounder Temperature and Geopotential Height Measurements," *J. Geophys. Res.* **113**, D15S11, doi:10.1029/2007JD008783.
- Woods, C., D. E. Waliser, **J.-L. F. Li**, et al. (**2008**), Evaluating CloudSat ice water content retrievals using a cloud resolving model: Sensitivities to frozen particle properties, *J. Geophys. Res.*, doi:10.1029/2008JD009941, Oct 2008.

**Li, Jui-Lin**, D. Waliser, J. Jiang and A. Thompkins, **2007**; Assessing Consistency between EOS MLS and ECMWF Analyzed and Forecast Estimates of Cloud Ice, *eophys. Res. Lett.*, 34, L08701, doi:10.1029/2006GL029022.